OFFICIAL RECORDS STATION
FILE COPY
FACILITIES FEB 25 1971

2650

QC CAL/CERT
PROCEDURES
GROUP COPY

VOLTAGE REGULATED POWER SUPPLY

MODEL 2650

SERIAL .....

QC CAL/CERT
PROCEDURES
GROUP COPY

KEPCO LABORATORIES, INC.
131 - 38 Sanford Avenue
Flushing 55, New York

STANDARD POLICY COVERING REPRODUCTION AND USE OF TECHNICAL DATA FOR KEPCO MANUFACTURED EQUIPMENT

The technical data submitted, including manuals, parts information, and mechanical and electrical drawings, is furnished solely for the purpose of effecting maintenance and/or repairs to the apparatus therein described and the purchaser or the Government shall not reproduce, use, or disclose the said technical data, in whole or in part, for any other purpose. Such technical data shall not be used for promotional procurement, development or manufacturing purposes, nor shall the purchaser or the Government permit the reproduction, use, or disclosure of any part of said technical data by others. The purchaser shall notify the Government of the purchaser's limited right in the use of said technical data for aforesaid purposes. In the event that any part of this technical data is used by anyone for other than the above-authorized purposes, the purchaser will give all assistance possible for the prosecution of action against any unauthorized use thereof.

KEPCO LABORATORIES, INC.
131 - 38 Sanford Avenue
Flushing 55, New York

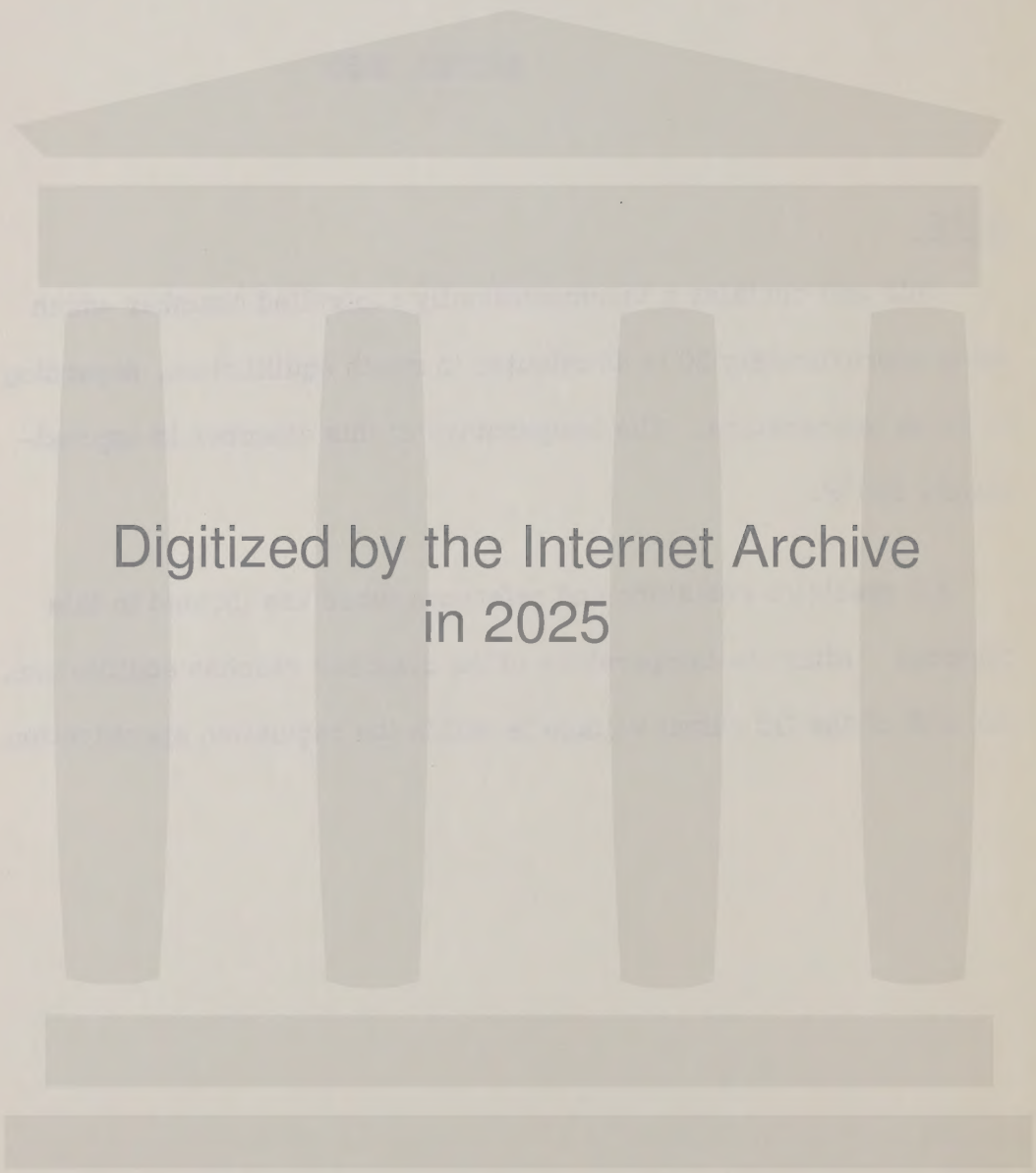
VOLTAGE REGULATED POWER SUPPLY

MODEL 2650

NOTE:

This unit contains a thermostatically controlled chamber which takes approximately 30 to 45 minutes to reach equilibrium, depending on room temperature. The temperature of this chamber is approximately 150°F.

All precision resistors and reference tubes are located in this chamber. After the temperature of the chamber reaches equilibrium, the drift of the DC output voltage is within the regulation specification.


Digitized by the Internet Archive
in 2025

https://archive.org/details/manualsplus_08392

KEPCO LABORATORIES, INC.
131 - 38 Sanford Avenue
Flushing 55, New York

VOLTAGE REGULATED POWER SUPPLY

MODEL 2650

SPECIFICATIONS:

OUTPUT VOLTAGE DC: 0-60 volts continuously variable.

OUTPUT CURRENT DC: 0-5 amperes continuous duty.

REGULATION: In the range 0-60 volts, the output voltage variation is less than 5 millivolts for line fluctuations from 105-125 volts, and less than 5 millivolts for load variations from minimum to maximum current.

RIPPLE VOLTAGE: Less than 1 millivolt.

FUSE PROTECTION: Input and output fuses on front panel. Time delay relay is included to prevent unregulated voltage from appearing at the output terminations.

POWER REQUIREMENTS: 105-125 volts, 60 cycles.

OUTPUT TERMINATIONS: DC terminals are clearly marked on the front panel. Either positive or negative terminal of the supply may be grounded. DC terminals are isolated from the chassis. A binding post is available for connecting to the chassis. All terminals are also brought out at the rear of the chassis. Two terminals are mounted at the rear of the chassis to provide for picking up the error signal directly at the load. This connection compensates for the voltage drop in the wires (and ammeter) connecting the power supply to the load.

METERS: Ammeter: 0-5 amperes, 4" rectangular.

Voltmeter: 0-60 volts, 4" rectangular.

PHYSICAL SPECIFICATIONS: Cabinet height 28", depth 18", width 21-3/4". Rack panel height 26-1/4", width 19", color Kepco standard gray hammertone, panel engraved.

CONTROLS: Power on-off switch, DC on-off switch, remote error signal on-off switch, coarse and fine voltage controls. The coarse voltage control is a 10 turn potentiometer which varies the voltage from 0-60 volts. The fine voltage control is a 10 turn potentiometer which varies the voltage one volt. The voltage divider network allows a 61 volt variation in putput voltage.

OPERATING INSTRUCTIONS:

The Kepco Model 2650 Regulated Power Supply is shipped with all tubes in place and is ready for operation.

PROCEDURE FOR TURNING ON POWER SUPPLY:

Make sure the fan is plugged into the fan outlet on the lower chassis. Wire up the power input plug to the 115 volt AC line.

The remote error signal switch which is located at the rear of the control chassis should be placed in the OFF position. The position of this switch should not be changed while the power supply is in operation.

Turn on the AC power switch. Wait 30 seconds for the time delay relay to operate. Turn on the DC power switch. Adjust the DC voltage controls to the desired output voltage.

The time delay relay in this unit is a thermal type. When the thermal time delay relay closes an auxiliary double pole-double throw relay is acti-

vated. One half of this relay removes the heater voltage from the time delay relay. The other half of the relay closes a power relay which applies the unregulated DC voltage to the regulator circuit. In the event that the line voltage should fail momentarily, this double pole-double throw relay will be de-energized. When the line voltage is again turned on, the DC voltage will not re-appear for approximately 30 seconds.

PROCEDURE FOR OPERATION OF THE POWER SUPPLY FOR NON-REMOTE ERROR SIGNAL:

A remote error signal on-off switch is located at the rear of the control chassis. For non-remote error signal this switch should be kept in the OFF position. The load may either be connected to the front DC output terminals or the rear DC output terminals. If the load is connected to the rear output terminals, the voltage across the front panel output terminals is not completely regulated for load (drop in wires connecting front to rear terminals.)

PROCEDURE FOR OPERATING THE POWER SUPPLY FOR REMOTE ERROR SIGNAL:

With the power supply turned off, switch the remote error signal switch to the ON position. Connect the + or - regulated output terminal to ground as desired. Use twisted pair wire for connecting the + and - output terminals from the rear of the chassis to the load. Use another set of twisted wires connecting the + and - remote error signal terminals to the load contacts. An ammeter may be inserted in series with the + or - regulated output wire (see Figure One).

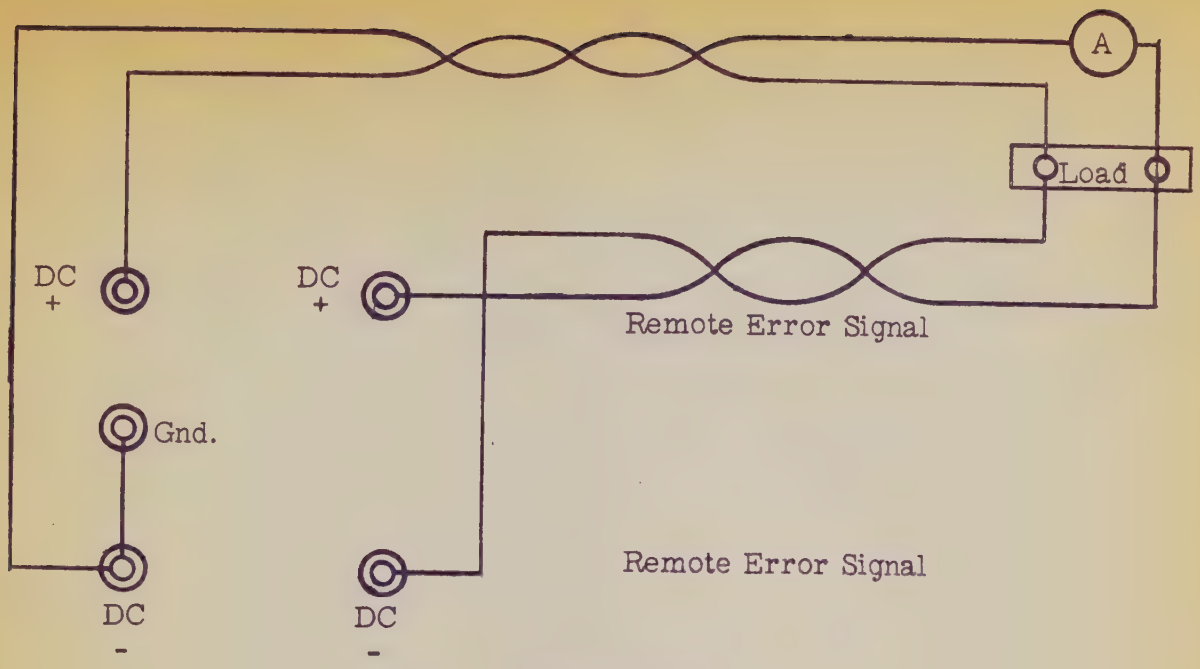


FIGURE ONE

MAINTENANCE: The components of the Model 2650 Regulated Power Supply have been selected and tested to provide long and trouble free operating life. The only service necessary should be the replacement of vacuum tubes. The location of the tubes is clearly marked on the chassis.

REPAIRS: Should any trouble develop in the instrument, it may be serviced with the aid of the schematic diagram. Major repairs, however, are usually handled by the factory.

Under no circumstances should the instrument be returned to the factory without proper authorization and shipping instructions. In any correspondence with the factory concerning repairs, the type and serial number of the instrument must be given together with a description of the trouble encountered.

PARTS LIST - MODEL 2650

S-2650-01

Power Unit and Regulator Chassis

C1	- 500	MF	200 WV
C2	- 500	MF	200 WV
C3	- 0.85	MF	850 V. AC (Sola)
C4	- 4.0	MF	1000 WV
C5	- 4.0	MF	1000 WV
C6	- 4.0	MF	1000 WV
C7	- 4.0	MF	1000 WV
C8	- 0.1	MF	600 WV
C9	- 0.1	MF	600 WV
C10	- 20	MMF	500 WV
C11	- 500	MF	200 WV
C12	- 500	MMF	500 WV
C13	- 500	MMF	500 WV
C14	- 0.25	MF	600 WV
C15	- 0.1	MF	600 WV
C16	- 0.005	MF	500 WV

F1	- 7 Amp. Slow Blow Fuse
F2	- 15 Amp. Fuse

GR1	- Germanium Rectifier 4JA211CB1AC3

L1	- Kepco Choke 100-206

M1	- Meter, 0-5 Amp DC
M2	- Meter, 0-60 V. DC

P1	- Power Plug, Hubbell #8818

PL1	- Pilot Light, S6
PL2	- Pilot Light, S6

R1	- 10	K	10 watt WW
R2	- 5	K	10 watt WW
R3	- 1.2	Meg	2 watt
R4	- 100	K	2 watt
R5	- 400	K	1/2 watt WW
R6	- 400	K	1/2 watt WW
R7	- 300	K	1 watt
R8	- 300	K	1 watt
R9	- 250	K	1 watt
R10	- 50	K	20 watt WW

R11	- 270	K	1 watt
R12	- 120	K	1 watt
R13	- 120	K	1 watt
R14	- 390	K	1 watt
R15	- 82	K	1 watt
R16	- 330	K	1 watt
R17	- 100	K	2 watt
R18	- 100	K	1 watt
R19	- 1	K	10 watt WW
R20	- 400	K	1 watt
R21	- 400	K	1 watt
R22	- 300	K	1 watt
R23	- 300	K	1 watt
R24	- 100	K	1 watt
R25	- 400	K	1 watt
R26	- 400	K	1 watt
R27	- 250	K	1 watt
R28	- 250	K	1 watt
R29	- 500	K	1 watt
R30	- 2	K	10 turn Pot.
R31	- 100	K	10 turn Pot.
R32	- 400	K	1/2 watt WW
R33	- 400	K	1/2 watt WW
R34	- 250	Ohm	40 watt WW
R35	- 250	Ohm	40 watt WW
R36	- 4	K	1/2 watt WW
R37	- 4	K	1/2 watt WW
R38	- 250	Ohm	40 watt WW
R39	- 250	Ohm	40 watt WW
R40	- 10	Ohm	1 watt

RL1	- DPDT Relay
RL2	- DPST Relay
S1	- DPST Switch
S2	- SPST Switch
S3	- DPST Switch
SK3	- Socket, Jones S2408-DB
ST1	- Edison Thermostat
T1	- Kepco #100-543
T2	- Kepco #100-622
T3	- Sola Transformer 7106

DRAWING S-2650-01

TD1	-	117-30-GO or 115 NO 30T
V1	-	5R4GY
V2	-	12AT7
V3	-	5751 or 12AX7
V4	-	6U8
V5	-	6U8
V6	-	12AX7
V7	-	5751 or 12AX7
V8	-	85A2
V9	-	85A2
V10	-	85A2

Series Tube Chassis

P101	-	Plug, Jones P-2408-DB
R101 thru R128	-	560 Ω 1 watt
R129 thru R156	-	50 Ω 5 watt WW
SK101	-	Fan Socket, Hubbell #7608
T101	-	Kepco #100-621
V101 thru V114	-	6336

Fan Unit

B201	-	Fan
P201	-	Plug, Hubbell #7106